2. Obstruction of small right coronary arteries that predominantly supply the right ventricle when the inferior wall of the left ventricle is supplied by a dominant left circumflex artery.

3. Obstruction of a right ventricular branch of a dominant right coronary artery or occlusion of a dominant right coronary artery proximal to the right ventricular branch. In the last two variants, we observed concomitant ST elevation in inferior and anterior leads. In the second variant (obstruction of a small right coronary artery), we observed isolated right ventricular infarction (2) and, in the third, infarction of the right ventricle and of the inferior wall of the left ventricle.

These data suggest that concomitant ST elevation in inferior and anterior leads cannot differentiate between patients with single or multivessel disease and in all cases indicates an extensive ischemic process. We believe in mandatory early catheterization for every patient with such concomitant ST elevation.

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Reply

We thank Ovsyshcher for emphasizing the earlier observations of our group (1,2) and others (3) that combined anterior and inferior lead ST segment elevation may be due to inferior infarction with predominant or extensive right ventricular involvement. We agree that the electrocardiographic (ECG) injury pattern during acute myocardial infarction generally reflects the anatomic supply of the artery of infarction rather than the extent of coronary artery disease (4), although these two factors may be interactive in the setting of extensive coronary artery disease with well developed collateral perfusion.

In general, we also agree with Ovsyshcher's recommendation that patients with concomitant anterior and inferior lead ST segment elevation be considered for early coronary angiography (as a prelude to reperfusion of the ischemic myocardium), but we do not believe that the ECG pattern in itself mandates this approach because the decision must also be based on other determinants of patient suitability (duration of symptoms, for example).

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Electrocardiogram in Right Ventricular Infarction

In his lucid editorial on the new "risk factor" for right ventricular infarction (1), Krasnow seems to introduce new electrocardiographic criteria for that condition. The "prominent though transient R waves in the right precordial leads of the electrocardiogram, especially lead V_4R" have not, to my knowledge, been described as markers of right ventricular infarction. The morphologic features described are those of (true) posterior infarction, which may affect the diagnosis of right ventricular infarction by making the ST segment in the right precordial leads isoelectric (2). I feel that Krasnow may be in error, perhaps referring to the R waves of right ventricular hypertrophy in those leads?

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Reply

Nikolic is correct in that the transient electrocardiographic changes of right ventricular infarction should have referred to ST change and not R waves. I was indeed thinking of right ventricular hypertrophy, the subject under discussion. I thank him for his correction and the care with which he read the editorial.

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